UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,022	02/25/2005	Hajime Seki	SEKI3006/FJD	4627

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BACON & THOMAS, PLLC
625 SLATERS LANE
FOURTH FLOOR
ALEXANDRIA, VA 22314

EXAMINER
NGUYEN, THU N

ART UNIT	PAPER NUMBER
2109	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *February 25, 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claims 1-3 are pending.

Specification

1.   The abstract of the disclosure is objected to because of line 5, 7, 12 "mean for".

Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claim 1 recites the limitation "each operation" in line 20. It is unclear what this

operation refers to. Does it refer to "statuses of operations" in line 11 or does it refers to

"issuing operations" in line 14? Also, it is unclear if "The operations" in line 22 refers to

"the operations" in line 11,14 or 19?

4.   Claim 1 recites the limitation "the head entry" in line 24. There is no antecedent

basis for this limitation in the claim. Also "are shown to be" is unclear.

5.   Claim 1 recites the limitation "the corresponding" in line 25. It is unclear what

element this reference refers to.

6.   Claim 2 recites the limitation "the top downward" in line 3. It is unclear what

element this reference refers to.

Double Patenting

7.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

8.   Claim 1-3 are provisionally rejected on the ground of nonstatutory obviousness-

type double patenting as being unpatentable over claims 7-12 of copending Application

No.10/344,698 in view of Shang et al (U.S. 5,974,531). This is a provisional

obviousness-type double patenting rejection because the conflicting claims have not in

fact been patented.

9.   Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type

double patenting as being unpatentable over claim 7 of copending Application No.

10/344,698 in view of Shang et al (U.S. 5,974,531).

Application No. 10/344,698 sets forth in claim 7 of Computer System having "a

data file that has entries each designed to be able to hold data; an advanced mapping

file that has entries each designed to be able to hold an entry address in said data file; a

completed mapping file that has entries each designed to be able to hold an entry

address in said data file; a state-modification queue that has entries each designed to

be able to hold substance of a modification made on said advanced mapping file; a

means for performing issued operations out of order; wherein making a modification on

said advanced mapping file, entering the substance of said modification into said state-

modification queue, and issuing operations combined with said modification on said

advanced mapping file are each to be done by cycle; wherein all of the operations

combined with the modification on said advance mapping file indicated by the

substance in the head entry of said state-modification queue are shown to be

terminated normally by the corresponding means for holding statuses of operations, a

modification according with said substance in said head entry of said state-modification

queue is to be made on said completed mapping file, and said head entry of said state-

modification queue is to be dequeued". However the claims of Application No.

10/344,698 do not set forth a "means for holding statuses of operations provided in

respective correspondence with said entries of said state-modification queue;" "wherein

each issued operation is to be executed out of order, and, on termination of each

operation, corresponding part of said means for holding statuses of operations is to be

altered accordingly;" as claimed. Shang et al (U.S. 5,974,531), however, teaches (See:

Column 3 line 35-49 and column 4 line 7-26) and (See Column 4 line 27-41). It would

have been obvious to one having ordinary skill in the art at the time the invention was

made to modify the claims of application No 10/344,698 by adding the means for

holding statuses of operation provided in respective correspondence with said entries of

said state-modification queue and wherein each issued operation is to be executed out

of order, and, on termination of each operation, corresponding part of said means for

holding statuses of operations is to be altered accordingly of Shang in order to save the

execute information.

10.   As per claim 2, see the limitation of claim 9 of copending application No.

10/344,698.

11.   As per claim 3, see claim 8 of the copending application No. 10/344,698 recites

all limitation of claim 3.

Claim Rejections - 35 USC § 102

12.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13.   Claim 1-3, as well as understand, are rejected under 35 U.S.C. 102(b) as being

anticipated by Shang et al. (U.S. 5,974,531).

14.   as per claim 1:

Shang disclosed a computer system comprising;

a data file that has entries each designed to be able to hold data (See, figure 1,

column 3 line 50-60, *where the register 17 file operates as on-chip stack cache to store*

the upper entries of a stack);

an advanced mapping file that has entries each designed to be able to hold an

entry address in said data file (See: Column 3 line 62-67 through column 4 line 1-6

where the decoded instructions are transmitted to an instruction window for execution);

a completed mapping file that has entries each designed to be able to hold an

entry address in said data file (See: Column 3 line 50-67 and column 4 line 1-6 *where*

the register file stores instruction results that have completed);

a state-modification queue that has entries each designed to be able to hold

substance of a modification made on said advanced mapping file (See: Column 4 line 7-

20 *where after execution the resulting information is written back to the reorder buffer)*;

means for holding statuses of operations provided in respective correspondence

with said entries of said state-modification queue (See: Column line 35-49); and

a means for performing issued operations out of order (See Column 3 line 35-49

and column 4 line 7-26);

wherein making a modification on said advanced mapping file entering the

substance of said modification into said state-modification on said advanced mapping

file are each to be done in one cycle (See: Column 4 line 7-26 *where when the execution of the instruction is completed, the instruction is retired and update to the register file);*

Wherein each issued operation is to be executed out of order, and, on termination of each operation, corresponding part of said means for holding statuses of operations is to be altered accordingly (See: Column 4 line 27-41); and

Wherein if all of the operations combined with modification on said advance mapping file indicated by the substance in the head entry of said state-modification queue are shown to be terminated normally by the corresponding means for holding statuses of operations, a modification according with said substance in said head entry of said state-modification queue is to be made on said completed mapping file and said head entry of said state-modification queue is to be dequeued (See: Column 3 line 62-67 through column 4 line 1-26).

As per claim 2;

Wherein said advanced mapping file and said completed mapping file are each to hold stack elements form the top downward in order of entry address (See: Column 3 line 35-61).

As per claim 3:

Wherein said advanced mapping file and said completed mapping file are each to be accessed by entry addresses (See: Column 3 line 36-49).

Conclusion

15.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

MacDonald et al (U.S. 6,295,574) taught real time interrupt handling for

superscalar.

Mahalingaiah et al (U.S. 5,870,578) taught workload balancing in a

microprocessor for reduced instruction dispatch stalling.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thu Nga Nguyen whose telephone number is 571-270-

1765. The examiner can normally be reached on Mon-Fri from 8:00 AM to 5:30 PM Off

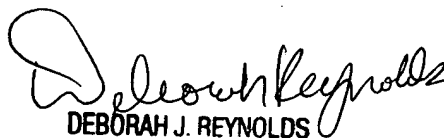every First and second Friday of a month.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Debbie Reynolds can be reached on 571-272-4949. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

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Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN

571-270-1765

DEBORAH J. REYNOLDS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600